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THE  
INCREDIBLE  
DIESINKING  
OF  
ABEL BUELL



Triple Hubbed  
Obverse 5.7 of 1786

Sequential page 423

# ABEL BUELL ~ OUR AMERICAN GENIUS ~



Part II - The Diesinker of 1786

J.C. Spilman

In Part I of this series we reviewed the highlights as recorded by others regarding the life and accomplishments of Abel Buell of Killingworth, Connecticut. While Buell's accomplishments in the arts and sciences are but sparsely documented, there is sufficient evidence for one to recognize that he was - indeed - an ingenious inventor and craftsman, and a bit of a scoundrel as well. Today, very few specimens survive of his handiwork in type founding, silversmithing and engraving. The details of his lapidary machine and most of his other mechanical devices appear to be lost forever.<sup>1</sup>

There is one area, however, in which Buell has left us literally hundreds of examples of his skill and handiwork. These are his coinage products, in particular the Fugio Cents of 1787 and many of the varieties of the Connecticut Coppers, and so we have available today relatively large quantities of source material for study and research. These specimens have been available for almost two hundred years during which they have quietly proclaimed the evidence testifying to the technological genius of Abel Buell.

The amount of evidence is overwhelming. So much so that numismatists - in their enthusiasm to identify the trees - have failed to recognize the nature of the forest. Only within recent years has there been a recognition that these coins have a story to tell - a much greater story than a simple tale of diebreaks and bungled dies. Let us examine some of this evidence and the conclusions to which it leads.

It has been a difficult task for numismatists to create some semblance of order and understanding out of the Connecticut Coppers chaos. This great mass of specimens struck in various combinations of over 400 different dies and bearing the AUCTORI CONNEC legend were produced under widely varying technological and artistic situations.

Early numismatic writers have identified Abel Buell as one of the principal diesinkers of the Connecticut Coppers, yet a simple visual inspection of the many varieties indicate the handiwork of others. Where does one start within this

<sup>1</sup> Notes begin on page 432

large and diverse group of specimens in order to structure them into orderly and understandable units?

Let us start, here, with the observation that during the year 1786 Abel Buell developed and placed into routine mass production - in America - methods of diesinking, tooling and coinage production representing a level of technology equal to or better than that existing in Europe. Buell manufactured coinage dies for some of the 1786 Connecticut Coppers from complete hubs having all major details of the design - central figure, legend letters and date, and border design - on those hubs! Both obverse and reverse dies were prepared from such hubs. These complex hubs were themselves produced (raised) from a matrix design cut by burin and punch into a block of metal. The dies sunk from these hubs were generally indistinguishable one from another, as was the coinage from these dies, with the exception of imperfections that occurred during the sinking of a die or later modifications made to individual dies.<sup>2</sup> Buell's technology seems to have been at least 50 years ahead of his time.<sup>3</sup>

It is from this technological baseline that comparisons can be made for all specimens within the Connecticut Coppers and Fugio coinages, and it is absolutely necessary to understand the nature of Buell's technology and methodology in order to understand what came before and after. For this reason we shall limit this present discussion to the evidence supporting the observation presented in the preceding paragraph regarding Buell's 1786 hubs. Future articles will cover some related aspects such as planchet cutting, specialized tooling and coinage techniques and will trace the evolution and decline of Buell's technology. We shall touch but lightly on these aspects at this time. While we limit this discussion to Buell's machine-made dies of 1786, it is equally important to recognize that he also produced a few dies that were completely hand-made and were one of a kind. This discussion deals with WHAT Buell did as evidenced by his coinage products. HOW he did these things cannot be proven nearly so well, if at all, and requires considerably speculation which hopefully has been avoided for the moment.

Illustrated in Figure A at approximately twice normal size are line sketches of the basic designs on the hubs used by Buell to produce the dies for his 1786 Connecticut coinage generally known as the Mailed Bust Left types. Tabulated with each design are the die varieties sunk from these hubs. These hub designs have been reconstructed by a photographic process and are composites of the features common to all the known varieties of obverses and reverses of the Mailed Bust Left types. From the obverse hub Buell sunk at least 18 dies, and from the reverse hub at least 17 dies. He did this by driving the hub with heavy pressure into a die blank. The evidence indicates that the hubs themselves were raised in a similar manner by being driven into an incuse pattern cut into a heavy block of metal. This incuse pattern (known as a matrix or master die) was

ABEL BUELL'S COMPLEX HUBS for the MAILED BUST LEFT  
CONNECTICUT COPPERS



Obverse hub

Dies sunk from obverse hub:<sup>9</sup>

7.1, 7.2, 7.3 & 8 of 1785

4.1, 4.2, 5.1, 5.2, 5.3, 5.4,  
5.5, 5.6, 5.7, 5.8, 5.9, 5.10,  
5.11, 5.13 & 5.14 of 1786

7 of 1787



Reverse hub

Dies sunk from reverse hub:

B.1, B.2, C, F, G, H.1, H.2,  
I, L, M, N, O.1, O.2, P, Q,  
R & S

the medium in which Buell did his original work of engraving and punching necessary to accomplish a design. From this matrix he then raised his working hubs from which he sunk his dies and then, in turn, struck his coins. The incredible fact is that Buell's Mailed Bust Left family of coinage - both obverses and reverses - are struck from dies that can best be described as machine-made from hubs containing the total design - even including the denticle border pattern on the face of the hub. There can be little doubt that Buell expected these dies to be indistinguishable one from another and ready for use in a coining press after heat treatment.<sup>4</sup>

Over a period of several years this writer has developed several photographic optical comparison techniques permitting rapid and accurate correlation of features between various coinage specimens. A principal device in these techniques is an accurately scaled photographic print on a dimensionally stable clear film base of each specimen under examination. The image diameter on each film print is approximately 7 1/2 inches. The prints are made in both positive and negative format from negatives exposed using bright field illumination on the specimen. These large film prints when overlaid one with another and viewed by a combination of transmitted and reflected light provide an almost instantaneous method for correlating similarities and differences over the total areas of the various specimens. They can be stacked in multiple to produce composite images showing at one time some features of the die face that can never be observed on a single coinage specimen. For example, the total 360° denticle border pattern.

The 7 1/2 inch diameter images are adequate for comparison of individual letter shapes and positions and for making a determination whether a die has been lapped with a resultant change in relative field elevations and letter widths. Dimensional distortions in die faces that resulted from heavy usage can be recognized and the correlation between features of seemingly unrelated coinages is possible and has produced some startling conclusions.<sup>5</sup> As of the date of this writing more than 100 film prints of the various early American coinage series have been produced and evaluated. This work is continuing and new areas for investigation are constantly being recognized.

The detailed investigations of Abel Buell's hubs of 1786 were started during 1972 and the preliminary results of that study are presented in this discussion. All of the conclusions stated herein can be verified and demonstrated through use of the film prints and various optical correlation methods.

We have stated that in his 1786 Mailed Bust Left family of coinage Abel Buell produced coinage dies from complex hubs. Identical obverse dies and identical reverse dies! Well, almost identical - but not quite. His process was not perfect by any means, but it was good enough to confuse numismatists for almost 200 years.

The lack of perfection during the hubbing process caused Buell to resort to hand

finishing on individual dies. Some obverses were satisfactory as sunk and were used without additional handwork, but most required enhancement of detail in the centermost area. All reverse dies received some degree of handwork. This handwork resulted in discernible differences between otherwise almost identical dies and these differences account for the major criteria in H.C. Miller's descriptions for this group of specimens.<sup>6</sup> Accordingly, it was necessary to make optical comparisons using film prints of numerous specimens of each die variety in order to make a determination as to which features were added to individual dies and which ones were common to all and thus had their origin in the matrix. In this manner the original matrix design, as reflected in the hub, was established as shown in the line sketches of Figure A. These sketches are not yet 100% complete and may be somewhat inaccurate in certain areas, but work is continuing on them.

On the obverse design there is considerable uncertainty in the central area of the head pertaining to the exact positions of the leaves in the wreath; therefore, parts of this area remain blank. Where the outside edge of the denticle border pattern is positively established it is shown as a solid line; where uncertain it is shown dotted. Note in particular that there is no punctuation or ornamentation associated with the legend letters.<sup>7</sup>

The reverse design exhibits several characteristics peculiar to Buell's designs for Miss Liberty. The seated figure holds only a bare stem in her right hand and this stem looks like nothing other than a banana, there is no Liberty Cap on the staff, and the shield is blank. The lower outline of the globe on which Miss Liberty is seated is well above the exergue line and the globe shows no lines of latitude or longitude. There is no punctuation or ornamentation associated with the legend letters.

Two small features in the lettering on these complex hubs deserve mention. The first is the appendage on the T in ET that resembles the wings of a bat. This bat-winged T is evident to some degree on every reverse die variety and was a feature of the matrix. The only explanation that comes to mind is that it may have been the boss on the shank of the T punch, provided of course that this letter was punched and not engraved in the matrix. The second is a peculiar feature on the obverse in the first C of CONNEC where the open ends of the C are closed by an underlying curved mark that causes a slight resemblance to a letter G on some varieties. This too was a feature of the matrix.

Two coinage varieties from dies sunk from these hubs provide valuable clues in analysis of the method of sinking dies and manufacture of matrices. In Figure B are illustrated approximately twice normal size Obverse 5.7 of 1786 and Reverse L of 1786. This obverse was chosen because it demonstrates in spectacular fashion the fact that the colons on these dies were added after the hubbing process, and similarly that the central device, legend letters and denticle border pattern were all present on the hub. Obverse 5.7 is struck from



Obverse 5.7 of 1786

The triple hubbed obverse - see enlargement of lower right area on page 423. Note typical additions to die after hubbing -- embellishment to breast plate, recutting of leaves in wreath including serrated edges, addition of colons to legend. Note also the characteristic weakness of detail in right central area of head. This weakness was due to the double problem of failure to fully raise the hub compounded by difficulty in striking of the coin.



Reverse L of 1786

Arrows indicate two endpoints of the sixteen point border punch. Note the effect of improper alignment of two sections directly above the head. Typical additions after hubbing include leaves on olive branch, embellishment to border design of shield, Liberty Cap on staff, and punctuation and ornamentation in legend.

a triple hubbed die with the impression from each hubbing just slightly out of register with the others. The triple hubbing is clearly evident in the enlarged section shown on the frontispiece of this issue. In particular note the triple pattern within the final C in CONNEC and within the plates of the shoulder piece on the mailed bust while, at the same time, there is only a single colon pattern. The triple hubbing is also clearly evident in many areas of the denticle border pattern but is not visible on the small section shown in our enlarged photograph.

Reverse L of 1786 was selected for illustration because of the remarkable clues it exhibits regarding the nature of the denticle border pattern. Around the top of this specimen, apparently the result of some anomaly during striking, appear the very tips of the denticle border pattern forming a succession of dots. These dots comprise a series of arcs that quite obviously do not properly line up with each other.

Film print comparisons of this feature with the other reverses in this group of die varieties indicates the remarkable method used by Buell to produce the border pattern. It appears that the basic pattern was formed in the original matrix by a punch shaped as a segment of a circle having 16 triangular segments cut into the inside circumference. The punch spanned approximately  $40^{\circ}$  of arc and thus required nine sinkings around the outer edge of the matrix in order to cover the full  $360^{\circ}$ . Perfect placement of this punch would have produced 144 triangular denticles; however, as best we can determine at the present time there are 136 on the reverse dies and 173 on the obverse dies. The film prints indicate that some  $40^{\circ}$  segments match other  $40^{\circ}$  segments offering further proof that the same punch produced various segments. On well struck specimens in nice condition the match lines at the ends of some of the segments are readily visible - most prominently directly below Miss Liberty's left foot, directly above her forehead, and between the tip of her staff and the E in ET.

A similar situation exists in the denticle border pattern on the obverses. This pattern is distinctly repetitive around the full  $360^{\circ}$  of arc and some portions appear to match with sections on the reverses, but we are not yet able to determine if the same or another punch was used for the obverses, and until we can resolve the problem posed by the different numbers of denticles on the two sides we must defer any judgement on this matter. The problems of examination and comparison of details at the outermost edges of these coins are very severe due to bifurcation and other factors such as rim burrs, all in addition to the basic fact that only very small segments of the border pattern appear on any single specimen. Buell's dies were approximately 15% too large in diameter relative to the planchet size with which they were used. The net result of this situation was that perfectly centered planchets almost always missed receiving the border pattern.

Buell evidently recognized this problem and made a few experimental attempts to correct it. Several of the dies that we are discussing exhibit a very large triangular denticle border pattern. H.C. Miller described this as "coarse, serrated milling." On these dies two and often three of the smaller denticles were hand cut into one larger denticle; each of these extend in toward the center and most touch the outer diameter of the legend letters. On Reverse F of 1786 the small denticles from the original hubbing can be seen peeking out from behind and between the larger denticles that were later hand cut into this die. Several of the obverses also exhibit a similiar feature.

This remarkable set of dies - 18 obverse dies and 17 reverse dies - produced by Abel Buell from his complex hubs represent an incredible level of technology, years ahead of its time! What Buell did during 1786 is clearly shown by his coinage product. HOW he accomplished this is another matter which we plan to discuss in a future article. These particular dies appear to represent the high point in Buell's achievements in diesinking. He developed his tools and processes well beyond any then existing in America and used them to manufacture a substantial quantity of dies, and then - except in a few isolated instances - he abandoned the use of complex hubs and developed new techniques and a considerably less sophisticated approach for his 1787 coinage products. The result was a significant improvement in quality.<sup>8</sup> This too will be covered in a future article in this series.

The objective of this article has been to describe the method by which Abel Buell manufactured his dies for the Mailed Bust Left coinage, and to establish a technological baseline - a frame of reference - against which the practice of other years and other craftsmen can be compared and evaluated. We hope this will serve as a preliminary guide toward sorting out the many Connecticut die varieties into logical groups for scientific analysis by other methods.

The comments and suggestions of our Patrons will be appreciated.



#### ■ ■ ■ ■ SPECIAL ACKNOWLEDGEMENT

My very good friend Edward R. Barnsley kindly provided access to his outstanding cabinet of Connecticut Coppers for examination and photography in connection with this study. The majority of the film prints on which this paper is based were made from specimens provided by him. Without his interest and cooperation the data presented here could not have been developed.

JCS

■ ■ ■ NOTES to Part II - The Diesinker of 1786

1. On December 14 & 15, 1836 the United States Patent Office was wiped out by fire. Lost forever were some seven thousand models, nine thousand drawings and almost two hundred rolls of records. As a consequence, the early history of the U.S. patent system is vague and whatever devices Abel Buell submitted for record may never be known. The Report of the Commissioner of Patents for the Year 1850 (House of Representatives, 31st Congress, 2nd Session, Ex. Doc. No. 32) details two memorials known to have been submitted by Buell. The first dated October 8, 1766 is for "Polishing Crystals" and the second dated October 1769 is for "Type Founding". A footnote indicates "Abel Buell's name again appears among the petitioners of New Haven, for a tariff of duties on imports, October 12, 1785."
2. Walter H. Breen seems to have been the first to recognize Buell's use of complex hubs. On page 15 of his booklet Dies and Coinage (QWERTYUIOPress, New York City, 1962) he states: "By infrequent steps, increasing parts of the total design of a coin were transferred to a single matrix, so that working dies made from the hubs raised from this matrix could not be told apart save by minute details of hand finishing. The 1786 mailed bust left Connecticut coppers are mostly of this sort, though the process may have started one step further by Buel's carving nearly complete hubs in relief; at any rate, the dies from Buel's hubs differ only in hand-finishing details such as the punctuations and ornaments added. . . ."
3. Walter H. Breen also comments in his Dies and Coinage : "... But it was only in 1878-9 in Britian, and in 1907 for gold, 1916 for silver, 1913 for nickel and 1909 for bronze in the USA, that complete obverse and reverse matrices and hubs were first put into use, though some dies had been so made since 1837 in the USA. . . ." From 1786 to 1837 is a span of 51 years and is the basis for our statement.
4. This statement is an oversimplification, of course. Buell knew in advance that some handwork would be required on the reverse dies since he had intentionally omitted from the matrix design the leaves and olives on Miss Liberty's olive branch. Only the obverse dies should have been ready for final heat treatment after hubbing. The most probable reason for the rework on the obverses is that Buell had difficulty raising his hubs to fill the central portions of the head, and so those uncertain areas on our hub sketch may reflect that problem and the sketch may be accurate as shown. These features may have never appeared on a complex hub.

Use of the phrase "the hub" is another oversimplification. There can be little doubt that a number of hubs were raised from a matrix, some complex and some only of the central device, some probably more fully raised than others. Accordingly, it is necessary to recognize the further complication in our study that discernable differences probably existed from hub to hub.

That Buell would have omitted the leaves and olives from the olive branch on his matrix is understandable. He had learned earlier that delicate isolated detail would not survive his hubbing process and that the slender branch itself was subject to severe mechanical or thermal stress. Therefore, he omitted this fine detail and gave Miss Liberty a very stout stem resembling a banana. In the following year design, he went one step further with the complete elimination of the stem above her clenched fist and but a small residual portion extending below. Where 1786 was the year of the banana, 1787 became the year of the olive when Buell created a special olive punch for use with his redesigned Miss Liberty. On some of his 1787 varieties the overall design of the branch - the stem, leaves and olives - consists totally of olives lined up end to end and in other configurations to form all the elements of her olive branch. This same olive punch was used to ornament the plate of the sundial on the Fugio Cents of 1787 -- those specs between the roman numerals are Buell's olives!

5. The first startling conclusion is that Buell's Draped Bust Left effigy is derived directly from his Mailed Bust Left design. The basic physiognomy of the two heads shows them to be the same whether dressed in toga or armor. This possibility was first suggested by Edward R. Barnsley and is confirmed by the analysis of film prints.

The second is that his seated Liberty of 1787, in spite of her more detailed overall appearance, is also derived directly from the 1786 design, but more important - both are 1:1 scale dimensionally exact reproductions of John Croker's Britannia as she last appeared on the 1775 British halfpenny. Film print comparisons were made using an uncirculated 1775 regal 1/2d. It is not unreasonable to assume that Buell coated a steel matrix blank with wax, made an impression from a contemporaneous halfpenny specimen at hand and then, using this pattern, engraved by burin his 1786 design for Miss Liberty. John Croker was Chief Engraver of the Royal Mint from 1705 until his death in 1741. We can only imagine his feelings could he have known that his design would eventually appear on the coinage of a foreign nation that had rent itself away from the Mother Country -- that Britannia's American daughters, sired by a native American and surrounded by a glory of Liberty and Independence, would continue to live in a new and thriving nation while the Empire slowly disintegrated.

6. When Henry C. Miller put into context the various features that today identify the die varieties of the Connecticut Coppers he accomplished an extremely difficult and tedious task, but it is evident that he encountered severe problems with this particular group of specimens -- so many that this section is the poorest in his monograph, and his descriptions make attribution very difficult. Had Miller recognized the nature of these specimens and the manner in which the dies were made he probably would have evolved a different attribution scheme. Nowhere in his writing does Miller give any indication that he recognized the use of complex hubs for the manufacture of Connecticut dies.

7. For many years numismatists have contemplated with amazement the great variety of ornamentation and punctuation in the legends of the Connecticut Coppers. As early as 1859 M.W. Dickeson in his American Numismatic Manual wrote:

"The great variety of punctuation found upon the preceding and succeeding emissions of the Connecticut coinage, suggests the idea that mere fancy would hardly have been indulged in to such an extent without some purpose of utility in connection with it."

"Our conclusion, therefore, is, that it may have been adapted to designate the various interests of the parties concerned - who may have been sub-lessees under the original grantees - or to distinguish the issues made to purchasers; which would, if either of our positions is correct, account satisfactorily for the very numerous distinctive designs and marks which the tables disclose."

Within the strict limitation of these dies sunk by Buell from his complex hubs, what evidence is there to support such an assumption -- that the ornamentation or punctuation has some special meaning? On the obverse dies we have only the presence or absence of colons to explain, and there is but one obvious point of possible significance. The majority of these dies exhibit colons and also show significant handwork; the dies without colons exhibit very little handwork. We can surmise that the colons were added as a quality control indicator -- first to identify the dies requiring substantial handwork, and secondly to produce a permanent record on each coin as a means for future identification of a particular die.

All reverses required handwork to add the leaves and olives to Miss Liberty's olive branch, but some required considerable rework to improve detail in the central areas. Assuming that the reverse ornamentation is also some form of quality control indicator, then it should not be too difficult to decipher Buell's code.

8. Buell's use of complex hubs, as ingenious as it was and years ahead of existing practice in America, seems to have been only moderately successful. Buell was faced with the pressing problem of quickly producing large quantities of dies, many more than could be satisfactorily handcrafted. His experience in type founding certainly would have suggested to him the techniques that he developed for manufacturing his machine-made dies of 1786. However, it is very likely that he found the time required to correct the deficiencies in his technique equalled the time required to produce the dies in a more conventional manner. The problem might have been so severe that he ruined a hub each time that he sunk a die.

9. Although there are 20 obverse dies tabulated in Figure A, there are actually only 18 different dies. 7.2 of 1785 and 4.2 of 1786 are the same die; 5.3 of 1786 and 7 of 1787 are the same die. See Edward R. Barnsley's article "Biennial Pairings of Connecticut Obverses" (CNL, April 1968, p.8). In addition we have listed newly discovered Obverse 7.3 of 1785. We anticipate publishing a description of this new obverse and the details of its discovery in a future issue of CNL.

**LETTERS** TECHNICAL NOTES *The Research Forum***THE NUMISMATIC WRITINGS OF DANIEL E. GROUX**

(RF-54)

● ● from Edward R. Barnsley

At New York Public Library (cat. ref.: MHE pv 23) bound in with a volume of sixteen numismatic pamphlets printed in various languages, - the book being labeled simply NUMISMATICS, - there is a twenty-six page prospectus of an important work to be published in three volumes under the title, "Numismatical History of the United States, Comprising a full Description of its Medals and Coins, from the Earliest Period to Our Times, by Professor Daniel E. Groux, 1856." What a great pity that this early history was never printed as contemplated.

Did this Professor Groux ever publish anything on American numismatics ?

**THE GARRETT COLLECTION AT JOHNS HOPKINS UNIVERSITY (TN-40)**

● ● by John W. Adams; Boston, Mass.

submitted by Richard Picker; Albertson, New York

**THOMAS HARRISON GARRETT  
(1849-1888)**

The Garrett family first settled in Baltimore in 1780. They soon made their mark on the city's economy, with their commercial interests expanding to include wholesale groceries, investment banking, and the B&O Railroad. This latter activity, which was begun in the 1840s, prospered greatly during the Civil War, it being one of the Union Army's primary logistical supports. John Work Garrett, then President of the B&O, sympathized with the Southern cause but it is clear that he did not permit politics to interfere with business.

In any event, Thomas H. Garrett -- John Work's son -- managed to select a very wealthy father. He (the son) attended Princeton University and, following graduation and the Grand Tour, joined Robert Garrett & Sons, the clan's investment bank. Thomas's degree of success in this career is uncertain but, by 1880 he had become an avid collector and it is in this capacity that he is best known to posterity.

Thomas Garrett collected books, prints, oriental rugs and, of course, coins. As a numismatist, his first extensive activities occur in 1881. During that year, he became a founding member of the Baltimore Numismatic Society and, in October, outbid his startled contemporaries for virtually every lot from the Haseltine collection of half dollars. In fact, there were very few auctions during the 1880s at which Garrett was not a buyer and at some -- e.g., Newlin half dimes in 1883, Frossard large cents in 1884, and Maris colonials in 1886 -- he repeated his steamroller techniques.

The net result of his efforts was a virtually complete set of United States gold, silver, and copper. The Garrett large cents are complete as to date and type, including a virtually MS 70 Chain Ameri (Herman Ely Sale, 1883), a mint state 12-L Liberty Cap, and a very fine Jefferson Head (Maris Sale, 1886). Garrett's only venture into varieties was 1794, where for several years he bought sporadically and then, in 1884, added the Frossard collection intact. Edouard Frossard had assembled a magnificent set which numbered 44 out of the 52 collectible varieties then known. Among outstanding individual pieces must be mentioned the Starred Reverse (second finest known at VF-25 plus), a VF-30 S-35 (Frossard's discovery piece and still the prettiest of the variety), and a lovely Hays-2 (somewhat overdescribed as "Uncirculated") and a mint state S-40 (to my knowledge the only uncirculated R-6 of this date). These four plus the 40 others commanded a ransom of \$420.

Thomas Garrett willed his coin collection to his son, John Work Garrett. Unlike his namesake grandfather, this John Garrett eschewed the world of commerce in favor of diplomacy, serving his country ably for almost 40 years. As a collector, he was more a bibliophile than a numismatist but, in the latter capacity, he did add an Ancient section as well as fill in remaining holes in the U.S. holdings.

The combined labors of two generations were bequeathed to Johns Hopkins University, where they are now proudly maintained. A visit to this institution is a guaranteed numismatic treat -- even the more sophisticated among you will be reduced to jelly by the sight of three Brasher doubloons, six 1792 patterns, and the like.

